

Communicating School Redesign **Mental Models Questionnaire 2014-15 Executive Summary**

Overview:

Five high school teams from the 2014-15 Communicating School Redesign class (Colchester, Harwood Union, Hazen Union and Otter Valley and Twinfield high schools) administered the “Shaping Our Future Together” survey to assess the mental models of students, teachers, and community members regarding education and learning. They then analyzed this data to inform their local communications campaign design.

Dr. Catharine Biddle, research associate at Pennsylvania State University, next aggregated and analyzed the findings for students (N=266) and teachers (N=159). This “Executive Summary” highlights mental models that surfaced that are well aligned with Act 77 and proficiency-based learning principles, along with those mental models that are not yet consistent with the pedagogy that undergirds current Vermont change efforts. A comparative summary of student and educator aggregate responses, along with summary statements from Dr. Biddle’s report, is also attached as a reference point. The community member sampling was small and inconclusive; therefore that data is not included in this summary.

Note: At a number of junctures, this data appears contradictory. This is not uncommon within mental model research. It is also typical during times of transition, where beliefs shift, sometimes erratically, as existing mental models are challenged and begin to change. This pattern highlights the need for a clear strategy to build a unified understanding of change efforts in order to encourage support and advocacy for school redesign.

Mental models consistent with Act 77 and proficiency-based learning principles and practices:

- ✓ Strong consensus that schools need to change to be aligned with our rapidly changing world (86% students; 95% educators) and in accordance with what we now know about learning.
- ✓ General consensus that 21st century skills such as communication, collaboration, and problem solving should be a focus of learning, in addition to knowledge (93% students; 98% educators).
- ✓ 91% of teachers and 69% of students report a growth mindset regarding intelligence.
- ✓ 78% of students report that high school students have the motivation to design and direct their own learning, with the support of adults.
- ✓ General strong agreement that teachers should guide, coach and facilitate learning, while students should be active partners in their learning (92% students, 93% teachers).
- ✓ Strong consensus of both teachers (97%) and students (93%) that learning outcomes will be improved by giving students options to fulfill graduation requirements both within and outside of the classroom (internships, independent studies, virtual learning, etc).

Mental models not yet consistent with Act 77 and proficiency-based learning principles and practices:

Beliefs about education, teaching, learning, and the need for change:

- ✓ Only 31% of students and 57% of teachers *strongly agree* that successful learning depends on students taking an active role to make new knowledge their own (although there is consistent overall agreement that taking an active role serves learning).
- ✓ 78% of students and 56% of teachers report that the most effective approach to education is a focus on the 3 Rs.
- ✓ 57% of students and 22% of teachers report that lectures are the most effective way to learn.
- ✓ 44% of students and 11% of teachers report that standardized tests are the most useful tool for measuring student progress.

Beliefs about intelligence and motivation:

- ✓ 31% of students report a generally fixed mindset regarding intelligence.
- ✓ Grades are reported to be the most significant motivator of learning by 66% of students and 42% of teachers.
- ✓ Only 68% of educators agree that students have the motivation to design and direct their own learning, with the support of adults (of these 68%, only 34% agree or strongly agree).
- ✓ 42% of students agree or strongly agree that high school students have the motivation to design and direct their own learning, with the support of adults.

Beliefs about the perceptions of the roles of students and teachers

- ✓ Only 28% of students (as compared to 64% of teachers) strongly agree that teachers should guide, coach and facilitate learning, while students should be active partners in their learning. Additionally, 74% of students agree that teachers design and direct student learning; the learning process is the teacher's responsibility.

Perceptions regarding Act 77 and the concept of flexible pathways:

- ✓ 43% of students and 23% of teachers report that students involved in varied hands-on learning options generally do not perform well in a classroom environment, suggesting a general stigmatizing of flexible pathways.
- ✓ 70% of students report little or no understanding of Act 77, as do nearly one quarter of teachers (23%) (Note: The survey was administered the fall of 2014).

Summary of Communicating School Redesign Mental Models Questionnaire 2015

Sample Size: Student N=266, Educator N = 159

Note: Unless otherwise indicated, the percentages noted are an aggregate of all “agree” responses out of a 6 point scale (strongly agree, agree, somewhat agree, somewhat disagree, disagree, strongly disagree). Each cell includes the detail of response rates for strongly agree, agree, and somewhat agree).

Beliefs about education, teaching, learning and the need for change

“Findings suggest a clear support for change within education; however many of the respondents seem to lack strong beliefs [or have conflicting beliefs] as to the direction or nature of that change... While all respondents demonstrate an understanding of the importance of skill-building through teaching and learning, many feel conflicted or have a ‘both/and’ approach to the idea of content and skills building.”

Question	Overall Response	Educator Response	Student Response
Our education system needs to change in keeping with the rapid changes in our world	91%	95% (33/43/19)	86% (21/35/30)
Recent findings from science give us a much better understanding about how learning happens. Do you think teaching methods need to change to address this new knowledge?			
Teaching methods do not need to change		1%	11%
Teaching methods should change some		70%	65%
Teaching methods should change a lot		29%	23%
The focus of learning should be helping students master a broad range of knowledge and skills, such as communication, collaboration and problem solving.	96%	98% (45/42/11)	93% (30/40/23)
Successful learning depends on students taking an active role to make new knowledge their own.	96%	98% (57/38/3)	93% (31/45/17)

Question	Overall Response	Educator Response	Student Response
The focus of learning should be helping students master basic knowledge in traditional school subject areas (math, English, science, etc.)	67%	56% (4/10/42)	78% (11/25/42)
Listening to teachers share their area of expertise in presentation and lectures is the most effective way to learn.	40%	22% (0/3/19)	57% (5/14/38)
Standardized tests are the most useful tool for measuring student progress	28%	11% (1/1/9)	44% (5/12/27)

Beliefs about intelligence and motivation

“Educators demonstrated their understanding of current research on neuroplasticity, while there was evidence that some students remain in the pre-awareness category... This data suggests that a greater proportion of students’ mental models of motivation remain in the pre-awareness category, while more than half of educators demonstrate at least awareness that intrinsic motivation can (will) play a role in teaching and learning.”

Question	Overall Response	Educator Response	Student Response
The ability to learn is largely fixed at birth.	4%	1%	7%
The ability to learn is largely fixed at birth, but can be influenced somewhat by the environment.	17%	9%	24%
The ability to learn is largely not fixed at birth. It grows through effort, use and the right kinds of support.	80%	91%	69%
Grades motivate students more than any other factor.	54%	42% (1/9/32)	66% (11/17/38)
In general, high school students have the motivation to design and direct their own learning, with the support of adults.	73%	68% (6/28/34)	78% (15/27/36)

Perceptions of the roles of students and teachers

“It was clear that there was a strong feeling amongst many of the respondents that teaching and learning was the responsibility of teachers and students jointly. However, there were large differences between educators and students, who varied in the strength of their beliefs about these topics.”

Question	Overall Response	Educator Response	Student Response
Teachers should guide, coach and facilitate learning, while students should be active partners in their learning.	93%	93% (64/29/6)	92% (28/41/23)
Teachers design and direct student learning; the learning process is the teacher’s responsibility.	65%	55% (3/14/38)	74% (10/23/41)

Perceptions regarding Act 77 and Flexible Pathways

“Students were stronger than educators in their belief that students who opted for alternative pathways did so because they were ill-suited to traditional classroom settings. It is possible that this is indicative of a certain stigmatization of these pathways amongst students.

“While the wide range of opinions about existing alternative pathways suggests a diversity of awareness of the possibilities that alternative pathways might provide in complementing traditional classroom instruction, the majority of students (and teachers) seem to indicate that there exists great possibility for innovation in learning in this area.

Educators responded in the greatest numbers that they actually had some understanding of current efforts to change teaching and learning in Vermont. The majority of students felt that they did not know about or understand current efforts.”

Question	Overall Response	Educator Response	Student Response
Students involved in varied hands-on learning options (eg. technical school, internships, self-designed studies) generally do not perform well in a classroom environment.	33%	23% (2/8/13)	43% (7/12/25)

Question	Overall Response	Educator Response	Student Response
How would you describe your current understanding of Act 77?			
Little or no understanding		23%	70%
Some understanding		55%	22%
Understand quite a bit		21%	8%
How would you describe your current knowledge of efforts to change teaching and learning practices in Vermont?			
Little or no familiarity		4%	42%
Some familiarity		53%	47%
A lot of familiarity		43%	12%

Report Primary Recommendations:

1. Shifting of student beliefs in order for them to be able to take on new responsibilities with regard to teaching and learning:

- ✓ Belief in the ability of their peers to take on new responsibilities
- ✓ Stigmatization of alternative learning pathways
- ✓ Beliefs about the division of responsibility between themselves and teachers
- ✓ Their understanding of the current research about intelligence, teaching and assessment

Mobilize students who grasp the research, concepts, and beliefs that will support the implementation of Act 77 to shift the beliefs of their peers about this redesign of the public school system.

2. Create clarity about the language of school redesign (especially terms that have become confused in the public understanding such as “active learning,” “partnership,” and “skill-building”).

3. Create a communications strategy that ties clarity in language, clear communication of key concepts and supportive belief structures, and information about the legislation itself to build public understanding and support for Act 77.